

REMARKS-General

1. The amended independent claims 21 and 29 incorporate all structural limitations of the original claims 1 and 11 and include further limitations previously brought forth in the disclosure. No new matter has been included. All claims 21-36 are submitted to be of sufficient clarity and detail to enable a person of average skill in the art to make and use the instant invention, so as to be pursuant to 35 USC 112.

Response to Rejection of Claims 21 under 35USC112

2. The applicant submits that the amended claims 21 particularly point out and distinctly claim the subject matter of the instant invention, as pursuant to 35USC112.

Response to Rejection of Claims 21-36 under 35USC103

3. The Examiner rejected claims 21-36 over Koo (US 5,234,985) in view of Wey (US 20050061157) and Mager (US 6790273) and further in view of Watanable (US 6,296,943) and/or Andrews (US 2005017253). Pursuant to 35 U.S.C. 103:

“(a) A patent may not be obtained though the invention is **not identically** disclosed or described as set forth in **section 102 of this title**, if the **differences** between the subject matter sought to be patented and the prior art are such that the **subject matter as a whole would have been obvious** at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.”

4. In view of 35 U.S.C. 103(a), it is apparent that to be qualified as a prior art under 35USC103(a), the prior art must be cited under 35USC102(a)~(g) but the disclosure of the prior art and the invention are not identical and there are one or more differences between the subject matter sought to be patented and the prior art. In addition, such differences between the subject matter sought to be patented **as a whole** and the prior art are obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains.

5. In other words, the differences between the subject matter sought to be patent as a whole of the instant invention and Koo which is qualified as primary prior art of the instant invention under 35USC102(b) are obvious in view of Wey, Mager, Watanabe, and/or Andrews at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains.

6. The applicant respectfully submits that in order to determine whether the differences between the subject matters sought to be patent as a whole of the instant invention and the primary prior art, Koo, are obvious in view of the supplemental cited arts, Wey, Mager, Watanabe and/or Andrews, we have to identify all the differences between the claims of the instant inventions and Koo. The applicant respectfully identifies the differences between the claims of the instant invention and Koo as follows:

(a) In claims 21 and 29, "a liquid container comprising a plastic made container body for storing liquid and a plastic made container cap covering at the opening of the container body" is claimed as a plastic bottle for preserving the liquid, wherein Koo merely teach a transparent resin composition adapted to form a food container for storing the solid food in a refrigerator to extend freshness of the food. The applicant respectfully submits that the liquid container of the instant invention is used for preserving the liquid especially under the sunlight but not in the refrigerator.

(b) In claims 21 and 29, "a nano titanium oxide" is claimed for blocking ultra-violet light entering into the liquid chamber of the liquid container, wherein Koo merely teaches the food container made of resin composition is used for storing the solid food in the refrigerator. It is apparent that Koo fails to teach and suggest the food container is used under the sunlight. In fact, the food suggested by Koo is pork, crab, strawberry, or apple being stored in the food container inside the refrigerator without any mention of any liquid, such as water or beverage. In addition, there is no ultra-violet light in the refrigerator.

(c) In claims 21 and 29, "a far infrared ray emitter for emitting far infrared rays penetrating into the liquid chamber" is claimed to depolarize negative ions of the liquid, wherein Koo merely teaches the food container made of transparent resin is adapted to keep the solid food in the refrigerator without any depolarizing the negative ions of the liquid to keep the liquid in the liquid container in a germ-free manner.

(d) In claims 21 and 29, "the ceramic powders mixing with the nano titanium oxide to form **an anti-germ mixture**" is claimed to integrate with the liquid container, wherein Koo merely teaches the resin composition includes 1 to 30 weight parts of ceramic material added into a 100 weight parts of polycarbonate resin and mixed together by means of Henschel mixer. Throughout the description, Koo merely teaches such resin composition is used as a material of the food container to keep the food at a predetermined low temperature (in the refrigerator).

(e) Koo fails to teach and suggest the anti-germ mixture in liquid form is coated on the exterior surfaces of the container body and the container cap to integrally attach the anti-germ mixture with the liquid container as claimed in claim 22 in addition to what is claimed in claim 21 as a whole. Koo merely teaches the resin composition includes 1 to 30 weight parts of ceramic material added into a 100 weight parts of polycarbonate resin and mixed together by means of Henschel mixer without any mention of mixing the ceramic powders with said nano titanium oxide to form an anti-germ mixture and to coat on the exterior surface of the liquid container.

(f) Koo fails to teach and suggest the anti-germ mixture is integrally mixed with the raw plastic material to integrally form the container body and the container cap of the liquid container as claimed in claim 23 in addition to what is claimed in claim 21 as a whole. Koo merely teaches the resin composition includes ceramic material added into a polycarbonate resin and mixed together by means of Henschel mixer to form the food container.

(g) Koo fails to teach and suggest "the far infrared ray emitter is in 1:10,000 weight ratio with the raw material of said liquid container and the nano titanium oxides is in 1:10,000 weight ratio with the raw plastic material of the liquid container" as claimed in claim 24 in addition to what is claimed in claim 21 as a whole and as claimed in claim 32 in addition to what is claimed in claim 29 as a whole. Koo merely discloses the ratio between ceramic material and polycarbonate resin is 1 to 30 : 100 weight part.

(h) Koo fails to teach and suggest "the far infrared ray emitter and the nano titanium oxide constitutes 5% by weight of the protective arrangement and water constitutes 95% by weight of the protective arrangement" as claimed in claims 25 to 28

in addition to what is claimed in claim 21 and as claimed in claims 33 to 36 in addition to what is claimed in claim 29 as a whole.

Accordingly, the Examiner alleges that routine experimentation would allow for one of ordinary skill in the art to determine the optimum weight ratios and the optimum weight percentages of the protective arrangement and the raw plastic material of the liquid container. Koo particularly claims the weight ratio for the ceramic material and polycarbonate resin in the independent claim because the compositions of matter are product where two or more materials combined together in a specific ratio. The applicant respectfully submits the weight ratios and the weight percentages disclosed in the instant invention is one of the distinctive features to form the plastic water and beverage bottle.

(i) The claiming elements of a process claim are the acts in the steps included, Koo fails to teach the elements of (a) providing.... (b) mixing ... and (c) integrally applying ... as claimed in the claim 29. Koo merely teaches the resin composition includes ceramic material added into a polycarbonate resin and mixed together by means of Henschel mixer to form the food container without any step teaching how to mix ceramic powders and nano titanium oxide to form an anti-germ solution and how to integrally apply the anti-germ solution to the liquid container.

(j) Koo fails to teach the step of integrally coating the anti-germ solution on the exterior surfaces of the container body and the container cap as claimed in claim 30 in addition to what is claimed in claim 29 as a whole. Koo merely teaches the ceramic material is mixed with the polycarbonate resin to form the food container.

(k) Koo fails to teach the step of integrally mixing the anti-germ solution with a raw plastic material to integrally form the container body and the container cap as claimed in claim 31 in addition to what is claimed in claim 31 as a whole.

Whether the claims 21 to 36 as amended of the instant invention are obvious depends on whether the above differences (a) to (k) between the instant invention and Koo are obvious in view of Mager, Wey, Watanabe and/or Andrews at the time of the invention was made.

7. Furthermore, the applicant respectfully submits that when applying 35 USC 103, the following tenets of patent law must be adhered to:

- (a) The claimed invention must be considered as a whole;
- (b) The references must be considered as a whole and must suggest the desirability and thus the obviousness of making the combination;
- (c) The references must be viewed without the benefit of hindsight vision afforded by the claimed invention; and
- (d) Reasonable expectation of success is the standard with which obviousness is determined.

Also, "The mere fact that a reference could be modified to produce the patented invention would not make the modification obvious unless it is suggested by the prior art." Libbey-Owens-Ford v. BOC Group, 4 USPQ 2d 1097, 1103 (DCNJ 1987).

8. Wey merely teaches a beverage energizing sticker attached to the beverage serving means to energize the beverage without any suggestion of how such sticker adapted to depolarize negative ions of the liquid and to block ultra-violet light entering into the liquid chamber of the liquid container so as to keep liquid in the liquid container in a germ-free manner. The Examiner alleges that Koo is modified by Wey, who indicates that it is desirable to use far infrared emitting ceramic powders in conjunction with plastic water bottle with cap. However, Koo merely teaches the resin is used for storing solid food in the refrigerator. In addition, Koo and Wey, in combination, fail to teach the anti-germ solution is integrated with the liquid container. In other words, Koo and Wey, in combination, merely teach the resin containing ceramic material to form a food container and the sticker is glued on the food container. The applicant respectfully submits the instant invention provides a mixture of ceramic powders and nano titanium oxide to form the anti-germ solution so as to integrally apply the anti-germ solution to the liquid container. Even though Koo is modified by the beverage energizing sticker of Wey, the food container of Koo can merely provides a container having a beverage-energizing ability but cannot integrally form a water bottle to keep liquid in the liquid container in a germ-free manner.

9. Mager merely teaches a composition comprising 30-85% by weight of at least one polyfunctional organosilane and 15-70% by weight of nano-CeO₂ and adapted for coating on a substrate such as plastic without any suggestion of forming the anti-germ solution to integrally apply to the liquid container. Throughout the disclosure of Mager, Mager does not mention or imply the nano-CeO₂ can be integrated with plastic. Mager merely teaches the nano-CeO₂ is coated on the substrate. When Koo and Wey are combined with Mager, as proposed by the Examiner, the container of Koo is merely modified to have a material made of transparent resin and the composition containing nano-CeO₂ is coated on the container. In other words, Koo, Wey, and Mager, in combination, fail to teach the liquid container of the instant invention as a whole by forming the anti-germ solution and integrally applying the anti-germ solution to the liquid container. Therefore, neither Koo, Wey, nor Mager suggests a manufacturing process and product of a liquid container containing the above distinctive features (a) to (k) as claimed in the instant invention as well as any combination or possibility of mixing ceramic powders with nano titanium oxide to form an anti-germ solution and applying the anti-germ solution to the liquid container to block ultra-violet light and to depolarize negative ions of the liquid so as to keep liquid in the liquid container in a germ-free manner.

10. Watanable merely teaches a composition comprising titanium oxide (TiO.sub.2)-tin oxide (SnO.sub.2) composite sol, a titanium oxide (TiO.sub.2)-zirconium oxide (ZrO.sub.2)-tin oxide (SnO.sub.2) composite sol, and a titanium oxide (TiO.sub.2)-cerium oxide (CeO.sub.2)-tin oxide (SnO.sub.2) composite sol, wherein the composition can be used for applications such as a surface treating agent for glass or ceramics. Watanable fails to suggest any solution of mixing ceramic powders with nano titanium oxide. A mere description of titanium oxide as one of the elements in the composition taught by Watanable does not suggest any mixture of ceramic powders with nano titanium oxide used for water bottle. As it is mentioned above, the instant invention provides a liquid container formed by mixing ceramic powders with nano titanium oxide to form an anti-germ solution and applying the anti-germ solution to the liquid container. Therefore, Koo, Wey, Mager, and Watanable, in combination, fail to teach the liquid container of the instant invention as a whole.

11. Andrews merely suggests the contents of clear or lightly colored plastic containers or film are protected from ultraviolet radiation by the incorporation of certain

UV absorbers of class of reactable, durable hydroxyphenylbenzotriazoles in the container or film. Similarly, neither Koo, Wey, Mager, Watanabe nor Andrews suggests an arrangement and process of providing the liquid container with a protective arrangement containing the above distinctive features (a) to (k) as claimed in the instant invention as well as any combination or possibility of providing a mixture of ceramic powders and nano titanium oxide to integrally provide at the liquid container that the exterior surface of the liquid container forms a germ barrier to keep the liquid in the liquid container in a germ free manner.

12. "To prevent the use of hindsight based on the invention to defeat patentability of the invention, this court requires the examiner to show a motivation to combine the references that create the case of obviousness. In other words, the examiner must show reasons that the skilled artisan, confronted with the same problems as the inventor and with no knowledge of the claimed invention, would select the elements from the cited art references for combination in the manner claimed... [T]he suggestion to combine requirement stands as a critical safeguard against hindsight analysis and rote application of the legal test for obviousness..." *In re Gorman*, 933 F.2d 982, 986, 18 USPQ 2d 1885, 1888 (Fed. Cir. 1991).

13. Accordingly, the applicant believes that neither Koo, Wey, Mager, Watanabe nor Andrews, separately or in combination, suggest or make any mention whatsoever of the difference subject features (a) to (k) as claimed in the amended claims 21 to 36 of the instant invention.

14. Applicant believes that for all of the foregoing reasons, all of the claims are in condition for allowance and such action is respectfully requested.

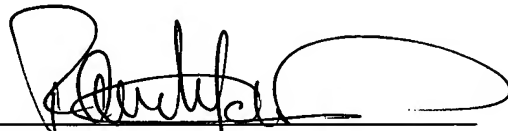
The Cited but Non-Applied References

15. The cited but not relied upon references have been studied and are greatly appreciated, but are deemed to be less relevant than the relied upon references.

16. In view of the above, it is submitted that the claims are in condition for allowance. Reconsideration and withdrawal of the objection are requested. Allowance of claims 21 to 36 at an early date is solicited.

17. Should the Examiner believe that anything further is needed in order to place the application in condition for allowance, he is requested to contact the undersigned at the telephone number listed below.

Respectfully submitted,



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